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FLORIDA'S PRODUCTION
OF AGRICULTURAL PERISHABLES
IN RELATION TO THE
DEVELOPMENT OF AIR FREIGHT

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Florida's Production
of Agricultural Perishables
in Relation to the
Development of Air Freight

A Survey by the
Bureau of Agricultural Economics

UNITED STATES DEPARTMENT OF AGRICULTURE
and the
EDWARD S. EVANS TRANSPORTATION RESEARCH

WASHINGTON, D. C.
AUGUST 1945

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Acknowledgment is due Dr. C. V. Noble, Agricultural Economist and Head of the Department of Agricultural Economics, and Mr. A. H. Spurlock, Associate Agricultural Economist, Agricultural Experiment Stations, College of Agriculture, University of Florida, for their valued assistance in assembling the basic data and collaborating in the preparation of the manuscript.

FOREWORD

The development of Florida agriculture, particularly its citrus and winter vegetable crops, has followed the growth of effective and efficient methods of transportation to the large consuming centers. The Florida citrus industry development was slow when it was necessary to transport fruit to slow-moving, unrefrigerated boats at Florida ports by oxcart over sandy roads. Its gain in momentum has been closely correlated with the building of our railroads and our public highways and with the increase in speed by rail, boat, and motortruck, together with the greatly improved preservative methods used in transit, such as refrigeration, better packaging and handling. This has been equally true in the commercial development of winter vegetables and other highly perishable commodities.

A new transportation era is dawning. Air-borne freight is expected to be a practical reality after the war. To some extent, this type of transportation may compete directly with present methods. It is believed, however, that air-freight transportation will play a much greater role in the development of highly perishable subtropical and tropical crops, as well as of floricultural commodities, which do not now move in large volume by existing modes of transport. Such crops as the avocado, mango, papaya, lychee, loquat, sapodilla, white sapote, and carambola may lend themselves well to this method of transportation and may greatly increase in volume. The gladiolus, small succulent plants for potting, and many other floriculture and horticulture specialties are subject, also, to healthy development when this quicker method of transportation becomes available. Every encouragement should be given to pioneers in this field of freight transportation by everyone who is interested in the agricultural development of Florida.

The following report on the potential in Florida's agricultural perishables available for transportation has been prepared to encourage pioneering in quicker methods of transportation and thus stimulate the agricultural development of the State as well as better serve consumers of these products in the North.



L.W. Brittin
Director

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FLORIDA'S PRODUCTION OF AGRICULTURAL PERISHABLES IN RELATION TO THE DEVELOPMENT OF AIR FREIGHT

Introduction

A very substantial part of the winter and spring supply of fruits and vegetables for the northeastern United States originates in Florida. Normally this is transported by rail, truck, and boat. Before the war affected transportation, about 3 days were required to transport fruits and vegetables by refrigerator car or truck from Miami to New York City.

If, in the future, air transportation is used, only about 8 hours would be needed for this transport. The commodities could be harvested in the morning, precooled and packed in the afternoon, transported to New York City overnight, and sold in retail stores the next day—only 24 hours after harvesting.

Important factors in the successful movement of agricultural perishables by air freight are the supply of products, their areas of production, and their seasonality of production. Other factors, such as relative net costs of air shipment and competing transportation, the price of the commodity relative to its weight and volume, and the extent of the increase in the demand for the products that will be caused by air transportation, also are important in determining the quantity of agricultural commodities which may move as air cargo.

Costs of transportation and consumer reaction evidently should be analyzed on a commodity basis. This has been done for strawberries and tomatoes transported from Florida to Detroit¹ and for lettuce from California to Detroit.²

¹Bureau of Agricultural Economics and Edward S. Evans Transportation Research, Postwar Air Transportation of Fresh Strawberries and Tomatoes from Florida to Detroit, Michigan, March 1944.

²Bureau of Agricultural Economics and Edward S. Evans Transportation Research, Post-War Air-Transport Costs and Markets for Lettuce, July 1944.

Research on strawberries, tomatoes, and lettuce has indicated that air transport offers shippers of many perishables certain economies partially or wholly offsetting the higher cost of transportation. Substantial savings could be made by the use of lighter containers, exclusion of ice, and the elimination of some packing costs. The estimated differential in transportation cost of air-borne strawberries and surface-borne strawberries from Florida to Detroit could be reduced by 1 cent per quart, or from $6\frac{1}{2}$ cents to $5\frac{1}{2}$ cents per quart, by using in the air-borne cargoes lighter containers than the standard wooden crates now in use. The estimated transportation cost differential between air-borne and surface-borne tomatoes of about 6 cents per pound could be practically offset by savings in ripening costs and packaging for vine-ripened tomatoes shipped by air. The estimated cost differential in transporting lettuce from California to Detroit which is $6\frac{1}{2}$ cents per pound could be reduced to about $3\frac{3}{4}$ cents per pound by savings which could be obtained by using lighter packages, less waste through quick transport, and by packaging the lettuce in the field instead of in packing sheds.

Conclusions drawn from these previous studies are that even with the lowest ton-mile costs which are likely to prevail for some time and with utmost economies in handling, most air-transported produce must be sold at premium prices. In order to compete successfully with surface-borne produce the air-borne produce must be of superior quality. Apparently substantial quantities of air-borne strawberries would sell readily for $5\frac{1}{2}$ cents per quart higher than surface-transported strawberries during the months when the retail price is 35 cents or more per quart. Almost all of or even substantially more than the tomatoes now moving by surface carriers probably would move by air if vine-ripened, air-borne tomatoes could be sold at retail at the same price as surface-borne green-packed tomatoes. Lettuce from California has been transported by plane and placed on sale in Detroit at a price differential of 5 cents per head in competition with surface-borne lettuce, with all factors in the sale of the lettuce held constant except the price. About an equal quantity of air-borne lettuce at the higher price as surface-borne lettuce at the lower price was sold.

The detailed analyses of the air transportation of strawberries, tomatoes, and lettuce suggest an effective approach to the study of the air transportation of most other agricultural perishables. These studies demonstrate that although air-transportation costs probably will be higher

than surface-transportation costs, there are often offsetting economies in shipping produce by air and an offsetting factor in the superior quality of the air-borne produce which makes it salable to consumers at a higher price.

This report presents statistics on the seasonal production of fruits and vegetables in Florida and shows how air operations might fit into the production pattern. It suggests potential supply of agricultural perishables from Florida if demand arises. Relatively little critical analysis has been made of the likelihood of any single commodity being transported by air. A study was not made of the changes in production and harvesting practices which might be necessary to produce perishables especially suitable for air transportation. For example, Florida tomato growers indicate that there would be considerable difficulty in producing vine-ripened fruit unless the plants were staked. At present this is not practiced in many of the commercial production areas.

The 1942-43 seasonal production of fruits, vegetables, and other perishables is shown for Florida by counties in table 9 (page 31). The tabulations shown for shipments are for only one season, 1942-43, and the variation in volume and in the month of shipment is considerable from season to season, dependent upon weather conditions and other circumstances. Frequently there is a variation of 2 to 4 weeks in the commercial shipping season of a particular commodity.

Vegetable Production

Florida shipped about 650,000 tons of 30 different kinds of vegetables during the 1942-43 season. The seasonal production of vegetables in Florida is shown in table 1. Small quantities of snap beans, cucumbers, squash, peppers, and lima beans are harvested as early as October. The harvesting season for vegetables extends from October through July.

Many vegetables that are grown and shipped by rail from Florida would not be suitable for air transportation. Commodities such as watermelons, field peas, squash, mustard, turnips, and onions probably will not move by air, except for first early shipments, unless air-freight rates are lowered to about the level of rail-freight rates. At present, first shipments usually move by rail-express and extend the product's marketing season by this early arrival on the markets. Air shipments may further advance the season by 2 or 3 days.

TABLE 1.—Seasonal production of vegetables, Florida, 1942-43¹

Item	YEAR BEGINNING AUGUST										Per cubic foot		
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Lb.
Cabbage...	4,512	12,489	14,122	32,173	16,652	3,818	329	84,150	26.1				
Celery...	8,769	18,607	24,044	31,163	24,999	23,899	2,759	134,240	...				
Cucumbers...	1,518	555	178	21	1,970	5,155	89	11,232	38.6				
Cantaloups...													
Eggplant...													
Irish potatoes...													
English peas...													
Peppers...													
Strawberries...													
Tomatoes...													
Watermelons...													
Lima beans...													
Snap beans...													
All lettuce...													
Escarole...													
Sweet corn...													
Field peas...													
Okra...													
Squash...													
Beets...													
Chinese cabbage...													
Mustard...													
Turnips...													
Onions...													
Broccoli...													
Cauliflower...													
Collards...													
Radishes...													
Spinach...													
Carrots...													
Total.....	255	...	4,892	27,895	52,437	76,520	77,635	99,215	87,474	138,821	73,770	8,033	646,947

¹For the purpose of this tabulation cantaloups, strawberries, and watermelons are included.
 (a) Bunched. (b) Without tops. (c) Dry. (d) Green, bunched.

Commodities such as tomatoes, strawberries, sweet corn, lima beans, spinach, lettuce, cauliflower, and English peas will probably prove to be among the most profitable vegetables which can be shipped by air freight. Research has shown that tomatoes, strawberries, and lettuce probably will be profitable when so shipped. Bulky fresh staple products that can be processed or concentrated in the producing area may move in relatively large quantities even at relatively high air-freight costs. Products in this category are peas and lima beans shelled before shipment and spinach and cauliflower cleaned, washed, and packed ready to cook. Sweet corn is highly perishable and can seldom be transported very far from the producing area under ordinary transport conditions. But it is a likely product for air transportation; in addition sweet corn is produced at the beginning and at the end of the Florida season for shipping perishables. Thus it would extend the time of air operations. All in all, a large tonnage of vegetables probably would be available for air shipment in the months of November to June, inclusive.

Citrus Fruits

Florida's production of citrus fruits is many times larger than its production of vegetables and other fruits. Some citrus fruits are harvested in Florida during all months of the year, the greatest quantities coming in December, January, February, March, and April. The seasonal production of citrus fruits in Florida is shown in table 2.

Citrus fruits are being transported successfully by rail and little benefit would be secured from the more rapid air transportation. It is possible that a relatively small proportion of the crop could be moved by air by the shipment of fresh juice extracted and concentrated in the producing area. Orange, tangerine, and lime juice is highly perishable

TABLE 2.—Seasonal production of citrus fruits, Florida, 1942-43

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Oranges.....	563	34	20,447	137,686	199,924	180,101	216,481	311,005	280,697	216,700	99,404	10,950	1,673,992
Grapefruit.....	57	2	31,144	67,090	140,568	261,143	190,494	167,801	126,259	82,106	23,942	1,396	1,092,002
Tangerines.....	.....	.....	11,035	57,829	48,407	37,684	12,088	838	117	.....	.....	.....	167,998
Limes.....	1,059	706	280	149	316	281	230	142	56	474	1,174	1,538	6,405
Total.....	1,679	742	51,871	215,960	398,637	489,932	444,889	491,036	407,850	299,397	124,520	13,884	2,940,397

when not processed and would benefit by rapid transportation. By concentrating the fruit into the juice the economic significance of the difference between rail rates and air rates would be lessened. Members of the Texas Citrus and Vegetable Growers and Shippers are considering the installation, near airports, of processing and chilling plants to extract the juice from oranges and possibly from grapefruit for shipment by air transport. The juice in paper containers might move overnight to northern metropolitan centers for doorstep delivery, possibly in conjunction with milk deliveries.

Fruits, Gladiolus, and Succulents Production

The total tonnage of gladiolus, succulents, and fruits (other than citrus and strawberries) has been relatively small. However, much of this tonnage is harvested during the months when the vegetable crops are not being harvested. Seasonal production of fruits, gladiolus, and succulents is shown in table 3. Most of the products listed probably will move successfully by air. At present, one of the limiting factors in the production of these products for marketing is the lack of rapid transportation. Production of many of them will presumably be increased when shipment by plane is available.

Many other flowers are produced and shipped from Florida but the statistics are not available. If air-freight service at relatively low

TABLE 3.—Seasonal production of fruits, gladiolus, and succulents, Florida, 1942-43¹

Item	YEAR BEGINNING AUGUST												Per cubic foot	
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Lb.
Avocados.....	111	123	192	262	302	190	93	44	.....	.....	56	1,373	24.0
Blueberries.....	14	.....	.....	.....	.....	.....	.....	.....	.....	54	82	150	.....
Figs.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	39	61	100	31.4
Grapes.....	93	.....	.....	.....	.....	.....	.....	.....	.....	43	314	450	38.6
Guavas.....	81	42	17	.....	.....	.....	.....	.....	.....	23	163	.....	.....
Mangoes.....	50	8	.....	.....	.....	.....	.....	.....	42	100	200	.....	.....
Papayas.....	17	15	14	11	7	7	7	7	8	13	22	22	150
Peaches.....	.....	.....	.....	.....	.....	.....	.....	.....	475	790	319	1,584	38.6
Pears.....	1,730	246	.....	.....	.....	.....	.....	.....	.....	.....	499	2,475	39.4
Persimmons.....	5	22	38	10	.....	.....	.....	.....	.....	.....	.....	75	.....
Pineapples.....	5	.....	.....	2	2	6	9	11	15	34	21	105	29.1
Gladiolus.....	.....	104	424	1,430	1,557	1,370	1,386	963	93	.....	.....	7,327	.....
Succulents.....	99	97	116	78	56	74	66	90	85	74	85	64	984
Total.....	2,205	553	481	785	1,797	1,830	1,542	1,536	1,067	670	1,109	1,561	15,136

¹For the purpose of this tabulation cantaloups, strawberries and melons are not included.

rates is established in the postwar period, a tremendous increase in the flower business of Florida may materialize. Some expensive flowers, such as orchids, carnations, and lilies, have moved at the present high air-express rates.

Some of the flowers which may be among the first to move in quantity by air are chrysanthemums, asters, gladioli, camellias, orchids, roses, carnations, and gardenias. Many of these flowers can be grown in the open in Florida whereas in the northern competitive regions most of them must be grown under glass. The lower production costs and generally superior quality of the flowers may put Florida growers in a favorable competitive position in relation to northern and eastern greenhouses. Flowers are bulky and relatively light, but with a cargo of flowers it is possible to reach the weight limit of a DC-3 plane before the cubic space available for loading is used entirely. This indicates that density is not a very important factor in connection with the air transport of such products.

The eastern flower market, compared with existing Florida and California markets, is very much undersupplied. Flower purchases per capita in the Northeast are substantially below per capita purchases in the Florida and California areas, due at least partly to differences in prices. The northern market probably can be expanded greatly with supplies originating in Florida and California, although this probably would have to be induced by a reduction in prices.

The so-called succulents in table 3 include a variety of small green plants and ferns. These are usually shipped in very small size to retail stores throughout the United States. Most of them are potted before being retailed. The list of plants included in the succulents classification is:

Aloe—agave (century plant)	Cacti
Chinese evergreen	Crown of thorns (<i>Euphorbia splendens</i>)
Dieffenbachia	Pothos
Dracena	Crotons
Nephthytis	Rubber plants (<i>Ficus elastica</i>)
Philodendron	Air plant leaves
Cryptanthus	Ferns
Syngonium	Azaleas in bloom
Peperomia	Fancy leaf caladiums
Pandanus	Saint paulia (African violet)
Sansevieria	<i>Phoenix roebelenii</i>
Ardesia	Aspidistra
Crassula	Self branching and miniature ivy

One of the leading producers in Florida of succulent plants believes many shipments of this type will move by air. He states that most shipments of succulents go to wholesale growers, although Florida growers have started supplying retail florists, and they receive frequent requests for rush shipments as retailers have no facilities for carrying a stock. He further says that the production of plants is increasing in Florida so that a larger variety can be supplied to northern markets at times when stock is in demand.

Miscellaneous Subtropical Fruit Production

In addition to the subtropical fruits shown in table 3, other fruits which are potential air cargo and which many think probably will increase considerably in importance as fruit crops for Florida are:

Lychee	—Season, June 15 to July 15
Loquat	—Season, January to April
Sapodilla	—Season, April to August
White sapote	—Season, May to September
Carambola	—Season, practically all year

No quantitative data are available for these fruits. With the exception of loquats, they have been shipped to northern markets in limited quantities. Plantings are being increased and these fruits may be more plentiful in future years. The loquat probably cannot be shipped successfully in volume to northern markets except by airplane and this is one reason why it has not been planted in commercial quantities. It can be grown readily and will undoubtedly be grown more extensively if markets can be reached.

The crops mentioned in this section and in table 3 are in the category of commodities which, although not produced in great tonnage, probably will lend themselves better to air transportation than the bulk of the staple vegetables and citrus fruits. If air-freight rates continue at current levels, these may be the only products that can be moved profitably by air. Tonnage of these commodities is relatively small but in many instances if they can be successfully moved to market, substantial increases in production may occur.

Total Fruit and Vegetable Production

The total tonnage of fruits and vegetables harvested in Florida in 1942-43 is shown in table 4. About 15 percent of the total production is produced in each of the months of January, February, March, and

April. Only a relatively small quantity of fruits and vegetables is harvested during July, August, September, and October. The greatest seasonality occurs in the harvesting of citrus fruits, the least in the harvesting of other fruits and miscellaneous plants. Fortunately, some of the products which will probably be the first to move by air have the least seasonality in their production. The seasonal production information contained in table 4 is shown graphically in figures 1, 2, and 3.

TABLE 4.—Seasonal production of fruits and vegetables, Florida, 1942-43

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Vegetables.....	255	.....	4,892	27,895	52,437	76,520	77,635	99,215	87,474	138,821	73,770	8,033	646,947
Citrus.....	1,680	742	51,871	215,959	398,636	489,931	444,889	491,036	407,850	299,398	124,520	13,884	2,940,396
Other fruits and miscellaneous.....	2,205	553	481	785	1,797	1,830	1,542	1,536	1,067	670	1,109	1,561	15,136
Total.....	4,140	1,295	57,244	244,639	452,870	568,281	524,066	591,787	496,391	438,889	199,399	23,478	3,602,479
Percentage of total.....	.1	(1)	1.6	6.8	12.6	15.8	14.5	16.4	13.8	12.2	5.5	.7	100.0

¹Less than 0.05 percent.

Pattern for Air-Freight Operations

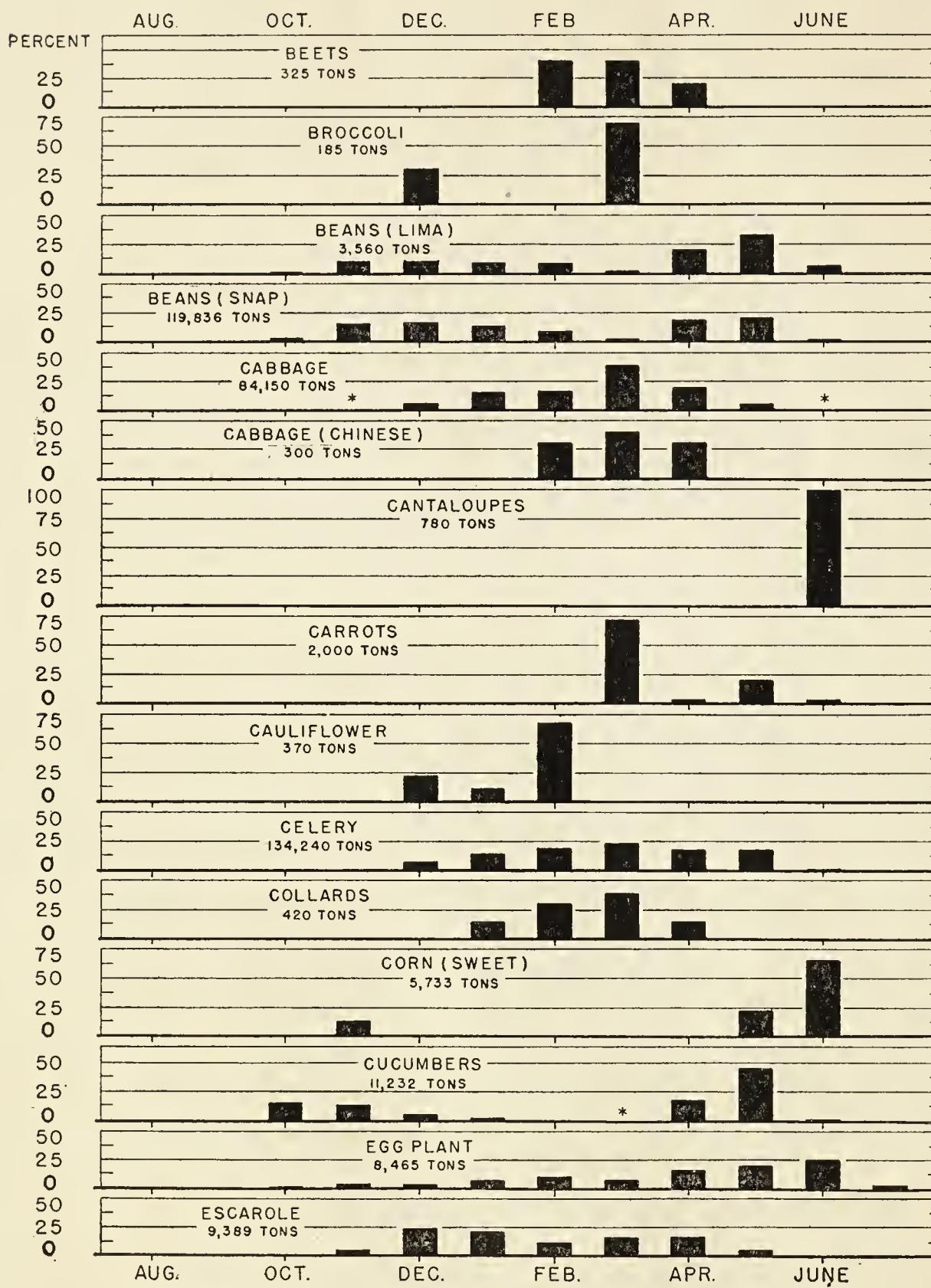
Fruits and vegetables are produced in all counties in Florida in various degrees of intensity. In the initial stages of air transportation it probably will be necessary that the fruits and vegetables to be shipped by air be concentrated near large existing air fields. For the most economical operation it is highly desirable that the concentration points be located in the center of intensive producing areas and in areas where the seasonal production of the commodities allows the maximum amount of tonnage. The proper location of the air-freight concentration centers would minimize the expense of truck transportation and would make possible the most expeditious handling of the product from the field to the plane.

An analysis of Florida's agricultural production shows that among the best locations for concentration points would be Miami and Plant City. These are not necessarily the only desirable air-freight concentration points but they are used in this analysis as examples of desirable ones.

Within a radius of 75 miles of Miami and of Plant City, nearly all kinds of the fruits and vegetables produced in Florida are harvested in quantity. Seasonal production of all fruits and vegetables in these two

SEASONAL PRODUCTION OF VEGETABLES, FLORIDA, 1942-43
(BY MONTHS IN PERCENT OF YEAR'S TOTAL)

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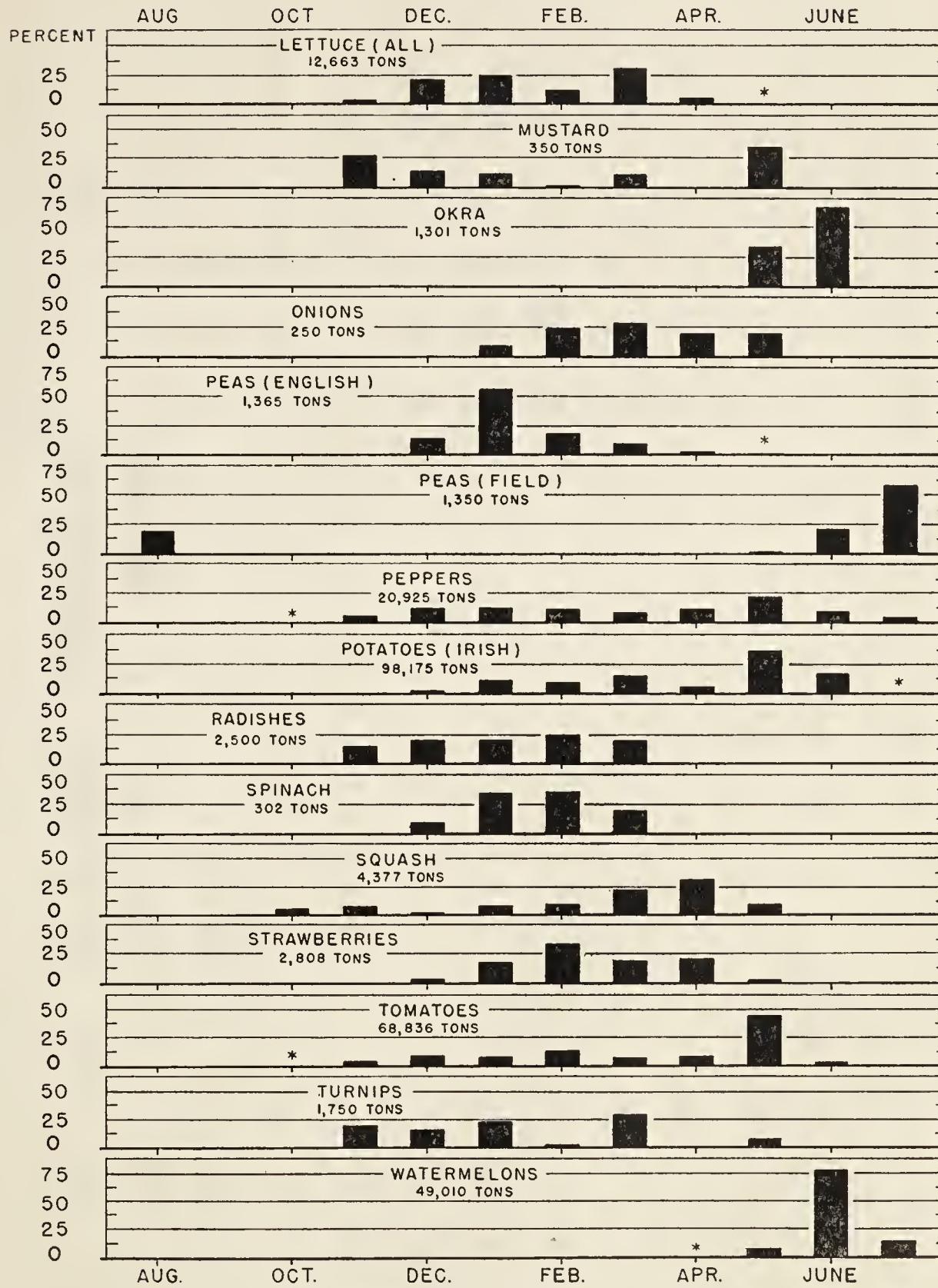


*LESS THAN 0.5 OF ONE PERCENT

FIGURE I

SEASONAL PRODUCTION OF VEGETABLES, FLORIDA, 1942-43
 (BY MONTHS IN PERCENT OF YEAR'S TOTAL)

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*LESS THAN 0.5 OF ONE PERCENT

FIGURE 2

SEASONAL PRODUCTION OF FRUITS, GLADIOLI, AND
SUCCULENTS, FLORIDA, 1942-43
(BY MONTHS, IN PERCENT OF YEAR'S TOTAL)

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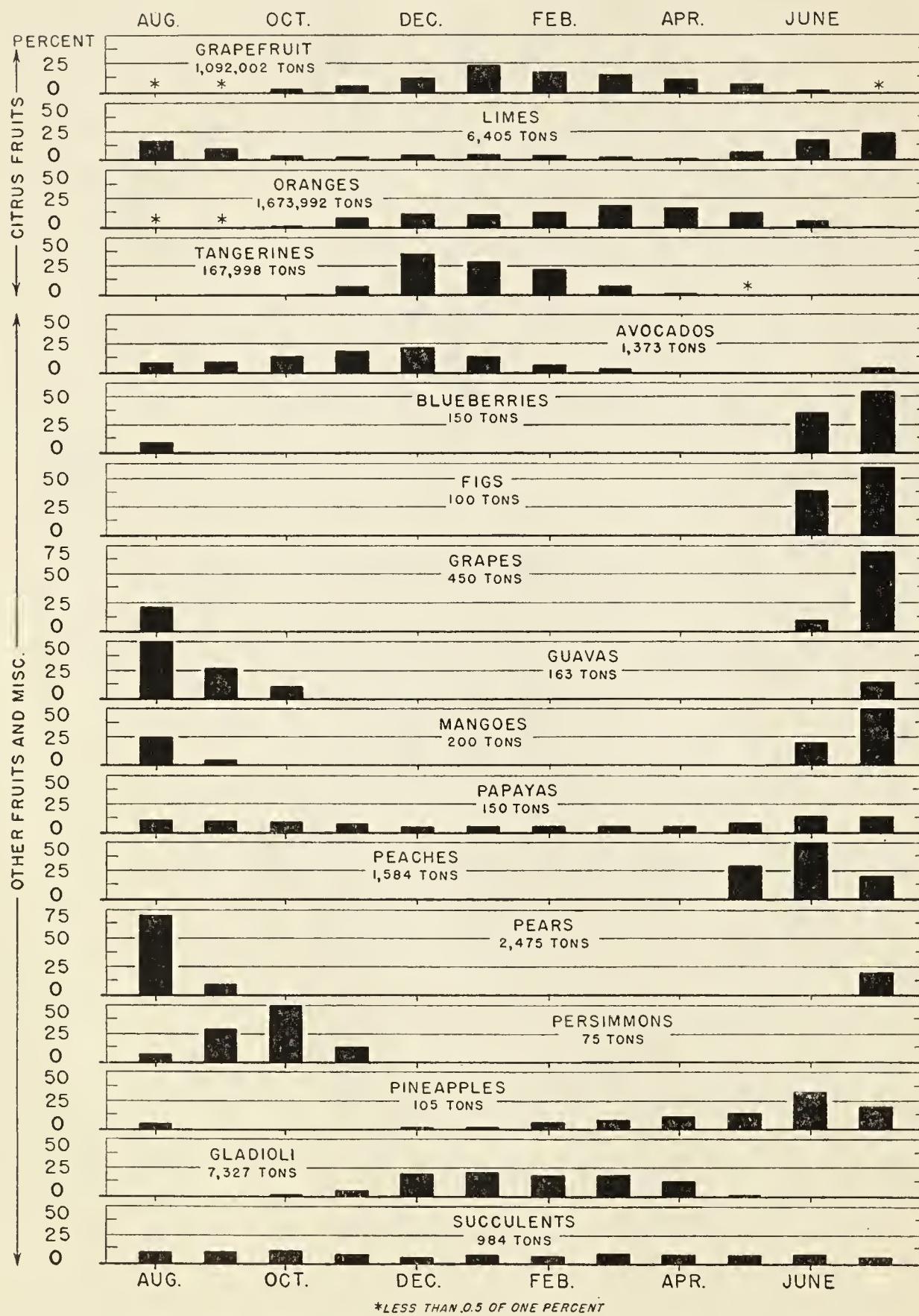


FIGURE 3

areas is at a minimum. However, the production of many individual crops is as seasonal as in other parts of Florida. The estimated tonnages harvested during the 1942-43 season within a 50-mile radius of Miami and Plant City are shown in tables 5 and 7. The possibilities of larger volumes by drawing on production within a 75-mile radius are shown in tables 6 and 8. The areas are shown graphically in figure 4.

Some perishables are harvested in the Miami and Plant City areas during the entire year but the quantity probably will not be sufficient to furnish as much pay load as desirable from June to November, inclusive. During a part of these months an additional tonnage of perishables might be secured by stopping at least once on each flight at some concentration point located farther north. For example, planes operating from Miami could stop at Fort Myers and load semitropical products grown on Pine Island. Planes operating from Plant City could stop either at Jacksonville or Atlanta, Ga., and pick up additional tonnage. A stop at either of these cities may be especially advantageous during the months of May and June when quantities of sweet corn, tomatoes, peaches, and lima beans may be available within a 50-mile radius of Jacksonville or Atlanta.

Conclusions

Production of fruits and vegetables in Florida is seasonal. In the 1942-43 season about 85 percent of the total tonnage was harvested during December to May, inclusive. However, the tonnage of perishables harvested during the remaining 6 months is of such a character that a substantial portion of it might be moved by air.

Production of perishable agricultural products in Florida is particularly small during July, August, September, and October when less than 3 percent of the total tonnage is harvested. The lowest operating costs for an air-freight line probably would be obtained through adjusting operations during the period of a seasonal low supply of agricultural perishables by:

- (1) Haul northward other perishable commodities such as sea food from Florida or the Caribbean Sea area.
- (2) Reduce the number of flights so that as nearly as possible a full load may be hauled northward; this reduction would be governed partly by trade demands and partly by the quantity and nature of the south-bound load.
- (3) Encourage production of perishables that are harvested and sold during the season of usual short supply.

TABLE 5.—Seasonal production of fruits and vegetables, vicinity Miami, Fla., (estimated production within 50-mile radius of Miami), 1942-43

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Beans, lima...	...	...	...	1,029	6,418	4	117	189	11	3	36	...	324
Beans, snap...	...	...	...	...	...	...	9,339	6,448	354	18	...	...	25,403
Beets...	...	...	...	...	...	101	379	405	35	18	...	...	88
Broccoli...	...	...	...	...	...	...	...	...	63	...	...	...	63
Cabbage, Chinese...	...	...	...	...	...	...	...	1,139	11	101	...	...	2,125
Carrots...	...	...	...	...	...	...	...	11	14	11	44	11	36
Cauliflower...	...	...	...	...	...	3	2	10	174	11	...	...	240
Celery...	...	...	...	...	...	...	6	13	6	...	...	...	15
Collards...	...	...	...	...	...	...	6	102	49	...	...	...	25
Cucumbers...	...	...	...	...	...	49	...	...	...	...	...	...	408
Sweet corn...	...	...	...	...	...	...	16	419	402	...	...	...	136
Egg plant...	...	...	...	...	...	...	...	...	...	...	...	...	1,980
Escarole...	...	...	...	...	...	...	19	56	187	...	...	...	...
All lettuce...	...	...	...	...	...	...	...	...	...	...	...	...	262
Mustard...	...	...	...	...	...	...	...	...	...	...	...	...	58
Okra...	...	...	...	...	...	...	...	...	...	...	...	...	...
Onions, green...	...	...	...	...	...	17	691	1,884	1,607	864	2,160	1,072	17
Peppers...	...	...	...	...	...	...	...	7,790	13,421	209	...	...	...
Irish potatoes...	...	...	...	...	...	...	...	...	...	...	...	...	...
Field peas...	...	...	...	...	...	11	15	15	19	15	...	...	75
Radishes...	...	...	...	...	...	...	6	20	20	11	...	...	57
Spinach...	...	...	...	...	...	...	...	221	277	387	221	...	...
Squash...	...	...	...	...	...	...	4	16	30	11	17	3	...
Strawberries...	...	...	...	...	...	623	5,035	8,639	4,139	1,758	953	...	...
Tomatoes...	...	...	...	...	...	263	...	...	...	...	...	...	...
Turnips...	...	...	...	...	...	...	...	...	...	...	...	...	...
English peas...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total...	...	...	...	...	...	1,369	7,967	17,118	25,968	22,658	5,677	2,693	174
Citrus fruit:	...	...	...	...	...	...	...	...	...	...	...	...	...
Grapefruit...	...	...	...	...	...	671	458	394	576	483	389	240	146
Limes...	838	601	242	137	305	...	...	210	202	109	34	468	786
Oranges...	563	156	340	340	716	...	...	879	1,179	1,551	1,643	1,593	1,505
Tangerines...	...	...	...	20	96	141	98	141	98	62	31	...	...
Total...	1,401	601	1,069	955	1,511	1,806	1,961	2,205	2,097	2,301	2,437	1,223	19,567
Miscellaneous:	...	...	...	...	...	...	...	...	...	...	...	...	...
Avocados...	111	111	166	222	...	...	...	...	...	...	...	...	56
Guavas...	7	4	2	...	...	...	...	...	...	...	...	...	110
Mangoes...	17	4	8	6	4	4	4	4	1	1	5	2	15
Papayas...	8	8	...	...	...	...	...	...	...	...	...	...	70
Pineapples...	...	...	...	...	...	...	...	...	...	...	...	...	44
Gladiolus...	...	...	...	...	...	...	...	...	...	...	...	...	7
Succulents...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total...	143	127	176	228	226	115	72	49	6	9	26	104	1,281
Grand total...	1,544	728	1,245	2,552	9,704	19,039	28,001	24,912	7,780	5,003	2,637	1,327	104,472

TABLE 6.—Seasonal production of fruits and vegetables, vicinity Miami, Fla., (estimated production within 75-mile radius of Miami), 1942-43

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Beans, lima.....	57	365	294	274	50	448	448	448	448	448	448	448	2,220
Beans, snap.....	2,315	15,901	18,234	15,729	10,145	3,384	18,467	18,257	18,257	18,257	18,257	18,257	102,579
Beets.....	..	..	..	..	41	42	21	21	21	21	21	21	104
Broccoli.....	..	..	..	..	..	..	..	..	..	..	..	..	119
Cabbage.....	..	..	..	..	..	..	..	..	..	..	..	..	29,325
Cabbage, Chinese.....	..	..	..	..	..	..	..	..	..	..	..	..	114
Carrots.....	..	..	..	..	..	..	..	..	..	..	..	..	560
Cauliflower.....	..	..	..	..	..	..	..	..	..	..	..	..	15
Celery.....	..	..	..	..	..	..	..	..	..	..	..	..	36,871
Collards.....	..	..	..	..	..	..	..	..	..	..	..	..	92
Cucumbers.....	..	..	..	..	..	..	..	..	..	..	..	..	816
Sweet corn.....	..	..	..	..	..	..	..	..	..	..	..	..	1,842
Eggplant.....	..	..	..	..	..	..	..	..	..	..	..	..	4,381
Escarole.....	..	..	..	..	..	..	..	..	..	..	..	..	1,619
All lettuce.....	..	..	..	..	..	..	..	..	..	..	..	..	2,143
Mustard.....	..	..	..	..	..	..	..	..	..	..	..	..	49
Okra.....	..	..	..	..	..	..	..	..	..	..	..	..	73
Onions, green.....	..	..	..	..	..	..	..	..	..	..	..	..	50
Peppers.....	..	..	..	..	..	..	..	..	..	..	..	..	12,293
Irish potatoes.....	..	..	..	..	..	..	..	..	..	..	..	..	34,020
Field peas.....	..	..	..	..	..	..	..	..	..	..	..	..	67
Radishes.....	..	..	..	..	..	..	..	..	..	..	..	..	1,325
Spinach.....	..	..	..	..	..	..	..	..	..	..	..	..	88
Squash.....	..	..	..	..	..	..	..	..	..	..	..	..	1,843
Strawberries.....	..	..	..	..	..	..	..	..	..	..	..	..	81
Tomatoes.....	..	..	..	..	..	..	..	..	..	..	..	..	21,992
Turnips.....	..	..	..	..	..	..	..	..	..	..	..	..	1,068
English peas.....	..	..	..	..	..	..	..	..	..	..	..	..	1,170
Total.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Citrus fruit:	..	..	..	..	..	..	..	..	..	..	..	..	..
Grapefruit.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Limes.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Oranges.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Tangerines.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Total.....	1,401	601	1,077	1,218	2,638	3,050	3,159	3,133	2,782	2,782	2,913	3,088	26,285
Miscellaneous:	..	..	..	..	..	..	..	..	..	..	..	..	..
Avocados.....	111	111	166	222	111	67	44	44	44	44	44	44	56
Guavas.....	9	5	3	..	..	..	..	..	..	..	..	..	3
Mangoes.....	19	4	8	..	..	..	..	..	..	..	..	..	15
Papayas.....	9	9	8	..	..	..	..	..	..	..	..	..	11
Pineapples.....	4	4	6	4	4	4	4	4	4	4	4	4	11
Gladiolus.....	39	48	58	57	57	2	2	2	2	2	2	2	18
Succulents.....	..	..	..	..	..	..	..	..	..	..	..	..	90
Total.....	191	177	292	374	437	394	345	345	430	430	430	430	157
Grand total....	1,592	778	3,741	19,214	29,280	46,521	47,144	52,887	43,773	34,923	5,191	1,405	286,449

TABLE 7.—Seasonal production of fruits and vegetables, Florida, vicinity Plant City, Fla., (estimated production within 50-mile radius of Plant City), 1942-43

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Beans, lima	113	395	90	90	30	30	1,222	1,501	85	...	112
Beans, snap	...	...	...	55	2,245	4,069	1,977	1,713	834	157	...	3,496
Beets	...	...	55	...	...	...	246	16	62	16	...	75
Broccoli	...	...	...	...	...	...	...	...	...	...	...	55
Cabbage	...	...	...	...	...	...	...	...	...	...	...	11,050
Carrots	...	...	...	...	...	...	...	...	...	...	...	340
Cauliflower	...	...	...	...	...	...	...	...	...	...	...	255
Collards	...	...	...	...	...	...	...	...	...	...	...	105
Corn, sweet	...	...	...	56	29	170	52	27	...	...	...	1,980
Cucumbers	...	...	...	...	...	...	...	...	...	...	...	2,880
Eggplant	...	454	101	40	55	79	118	172	853	76	...	1,658	
Escarole	82	82	165	874	616	243	379	616	21	...	...	2,914
Lettuce, all	...	165	1,353	2,637	285	356	356	356	...	...	...	4,988
Mustard	...	...	72	11	...	8	...	...	...	...	...	52
Okra	...	...	7	...	...	...	...	...	...	...	...	146
Onions, green	9	598	465	160	17	18	18	14	14	67	...	70	
Peppers	...	...	...	...	20	8	8	51	1,691	738	...	3,740
Potatoes, Irish	126	...	19	25	25	31	20	20	723	2,427	...	3,150	
Peas, field	...	...	...	55	5	11	11	11	...	...	128	634
Radishes	...	...	83	104	415	762	762	236	456	...	...	125
Spinach	...	...	13	1,173	1,672	266	30	20	2,146	451	69	56
Squash	...	...	20	70	70	...	...	20	...	14,382	137	830
Strawberries	...	...	...	...	...	...	...	...	...	...	...	2,079
Tomatoes	...	...	...	...	...	...	...	...	...	...	...	19,789
Turnips	...	...	...	...	...	...	...	...	...	...	...	140
Watermelons	...	...	...	...	...	...	...	...	...	...	...	1,902
Celery	...	...	...	...	...	...	...	...	...	...	...	5,046
Total	126	1,376	2,841	8,276	9,320	4,718	4,578	8,361	22,587	5,028	456	67,667	
Citrus fruit:	...	...	...	...	...	...	...	...	...	...	...	...
Grapefruit	57	2	24,775	51,621	108,476	201,294	144,286	111,026	84,504	52,959	14,576	794,707	
Limes	86	81	34	60,338	10,075	10	1	10	29	21	197	553	
Oranges	...	34	10,338	60,337	81,780	76,955	97,709	155,943	145,955	120,909	62,706	1,035	
Tangerines	...	...	...	...	20,196	18,357	17,963	6,240	1,019	77	...	818,558
Total	143	117	35,147	116,043	210,462	296,607	259,968	273,238	231,499	173,948	77,479	7,576	67,927
Miscellaneous:	...	...	...	...	...	...	...	...	...	...	...	...
Avocados	...	19	1	3	5	9	9	3	...	...	...	30
Guavas	...	4	4	...	...	...	...	...	...	...	...	39
Grapes	...	2	3	3	2	2	2	2	2	2	2	18	
Mangoes	...	4	3	7	2	2	2	2	2	2	4	8	
Papayas	...	1	4	25	165	373	312	325	370	3	6	38	
Persimmons	...	11	6	8	3	3	11	4	2	15	10	14	
Gladioli	...	...	...	...	...	...	...	...	...	...	...	1,902
Succulents	...	...	...	...	...	...	...	...	...	...	...	86
Total	41	24	50	178	387	334	334	374	325	31	20	37	
Grand total	310	141	36,573	119,062	219,125	306,261	265,020	278,190	240,185	196,566	82,527	8,069	2,135
												1,752,029	

TABLE 8.—Seasonal production of fruits and vegetables, Florida, vicinity Plant City, Fla., (estimated production within 75-mile radius of Plant City, 1942-43)

Item	YEAR BEGINNING AUGUST											Total	
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage, Chinese...													36
Beans, lima...	5	369	844	190	190	59	60	82	100	8	323	190	190
Beans, snap...													7,922
Beets...													149
Broccoli...					55	3,375	6,574	3,909	5,855	2,919	1,634	329	66
Cabbage...													24,650
Carrots...													1,320
Cauliflower...													336
Collards...													126
Corn, sweet...													2,868
Cucumbers...													4,872
Eggplant...													1,747
Escarole...													7,446
All lettuce...													7,576
Mustard...													101
Okra...													146
Onions...													90
Peppers...													5,365
Potatoes, Irish...	126												7,770
Peas, field...													634
Radishes...													1,125
Spinach...													167
Squash...													922
Strawberries...													2,187
Tomatoes...													22,590
Turnips...													263
Watermelons...													11,514
Celery...													93,713
Cantaloups...													98
Total...	126												205,989
Citrus fruit:													
Grapefruit...	57	2	27,909	58,575	123,836	231,031	66,311	37,290	102,550	17,133	6,092	350	671,136
Limes...	180	85	36	118,960	118,967	161,395	141,359	71	33	22	388	785	1,656
Oranges...		34		9,240	47,221	39,675	31,857	174,649	260,942	178,949	82,593	10,280	1,383,288
Tangerines...									10,370	1,274	114		139,751
Total...	237	121	47,005	186,523	332,463	412,136	272,845	308,635	339,176	196,202	89,073	11,415	2,195,831
Miscellaneous:													
Avocados...			5	12	19	36	12						120
Guavas...		23	12	5									47
Grapes...		43											216
Mangoes...		2		3	2		2		2				8
Papayas...		5	7	11	165	373	312		3				41
Persimmons...		1		25	8	3	11	325	370	15			21
Gladiolus...		11	6	5				4	2	13			1,902
Succulents...		35							6				86
Pears...													50
Total...	120	38	64	192	414	361	343	374	325	31	40	189	2,491
Grand total...	483	159	48,607	191,358	352,240	437,013	297,730	339,907	368,708	248,998	106,723	12,385	2,404,311

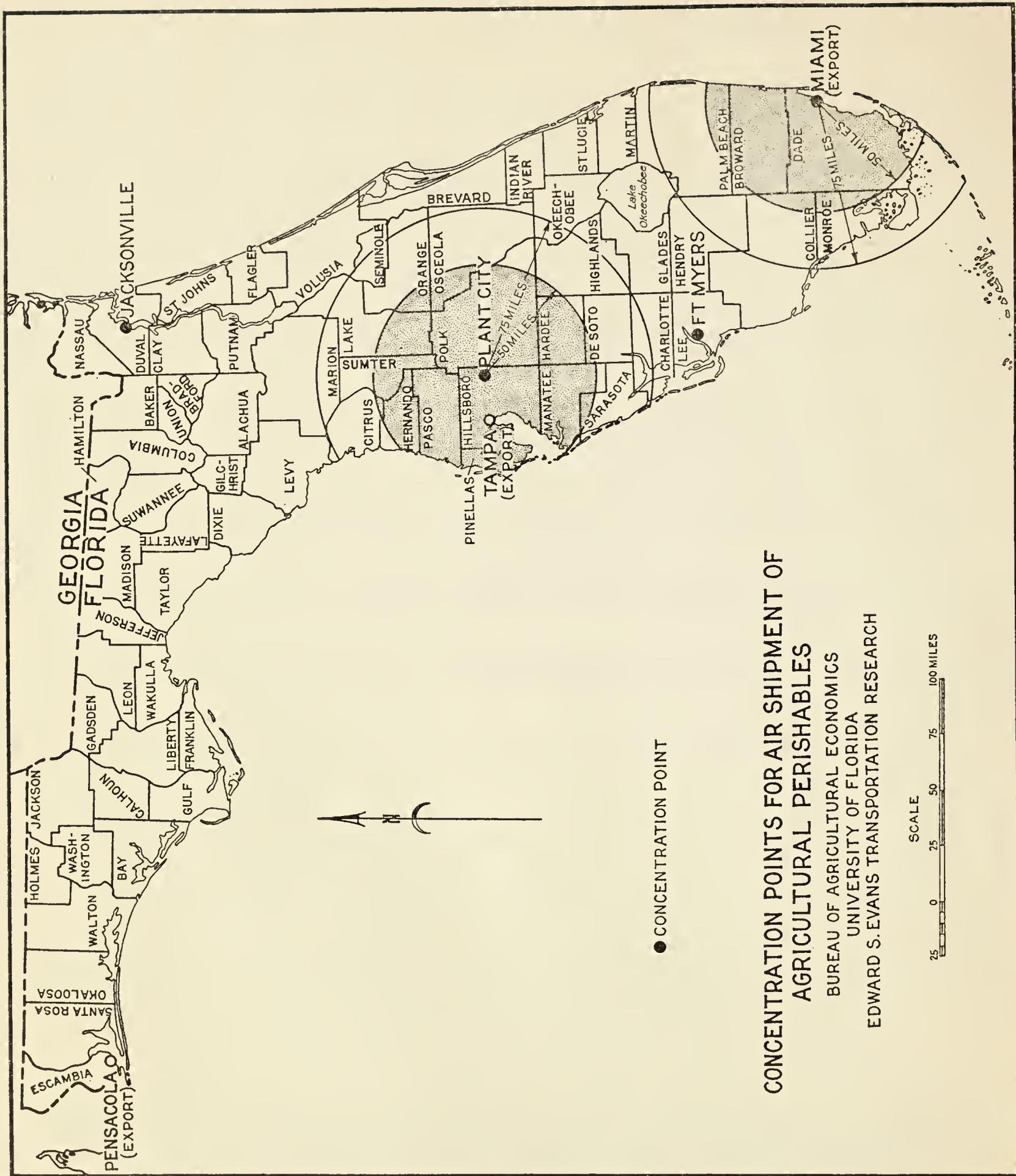


FIGURE 4

In the initial development of air transportation of perishables, it is highly desirable that the air-freight concentration points be located in intensive fruit and vegetable producing areas as well as in areas where the seasonal variation in production is at a minimum. An analysis of Florida's agricultural production indicates Miami and Plant City as examples of desirable air-freight concentration points. Practically all of the fruits and vegetables produced in Florida are harvested in quantity in the areas adjacent to these two concentration points. Some commodities are harvested in the Miami and Plant City areas during all months of the year. The production in northern Florida and southern Georgia complements the production in southern Florida, seasonal production being lowest during the months of high production in the other areas, and some tonnage is produced when production in southern Florida is extremely low. Planes operating from points in southern Florida probably could stop at Fort Myers or other points farther north while planes operating from Plant City probably could stop at Jacksonville or Atlanta during May, June, and July and add to their north-bound loads of perishables.

APPENDIX

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43

ALACHUA COUNTY

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage...													
Celery...													
Cucumbers...													
Eggplant...													
Irish potatoes...													
English peas...													
Peppers...													
Tomatoes...													
Watermelons...													
Lima beans...													
Snap beans...													
All lettuce...													
Sweet corn, green...													
Okra...													
Squash...													
Spinach...													
Oranges...													
Tangerines...													
Figs...													
Peaches...													
Pears...	87	12	1										
Persimmons...	..	1											

BAKER COUNTY

Irish potatoes...	..	..	..	..	..	..	..	..	..	..	..	..
Watermelons...	..	..	..	..	..	..	..	..	..	..	..	..

BRADFORD COUNTY

Cabbage...	..	..	..	..	..	12	134	121	152	6	379	5
Cucumbers...	..	..	..	..	..	..	..	29	211	71	433	317
Irish potatoes...	..	..	..	..	..	..	..	..	..	13	..	..
Strawberries...	..	..	..	..	..	..	..	..	..	70	202	324
Tomatoes...	..	..	..	..	..	..	..	..	..	..	206	272
Watermelons...	..	..	..	..	..	..	..	..	..	10	198	5
Lima beans...	..	..	..	..	..	..	..	..	..	..	128	211
Sweet corn, green...	..	..	..	..	..	..	..	..	..	..	..	336
Field peas, green...	24	..	..	..	..	..	..	..	..	..	..	546
Beets...	..	..	..	..	..	..	..	..	..	..	..	122
Snap beans...	..	..	..	..	..	..	..	..	..	..	..	23
Pears...	35	5	24	119	1	..	..	..	..	..	..	476
Persimmons...	1	1	2	1	..	..	..	..	..	..	..	5

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

BREVARD COUNTY

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Tomatoes...	55	90	4	465	23	102	282	12	5	274	291	1,268	39,333
Oranges...	14	1,493	6,046	6,577	6,465	6,686	4,754	4,066	4,754	5	2	4	16,050
Grapefruit.	8	892	1,807	3,620	2,956	4,119	5	5	569	12	47	19	1,649
Tangerines.		114	767	442	225	96					29	10	21
Limes...			2	1	7	6	2				3	10	23
Avocados...	7	4	2	3	7						1	2	4
Guavas...	12	1	2	2									
Mangoes...	1												
BROWARD COUNTY													
Cabbage...													425
Cucumbers...													408
Eggplant...													1,609
Irish potatoes...													1,680
Peppers...													8,106
Tomatoes...													5,406
Lima beans...													216
Squash...													507
Beets...													20
Turnips...													175
Broccoli...													41
Cauliflower...													15
Snap beans...													20,263
Oranges...	563	18	6,357	7,477	3,453	1,617	294	36	1,113	1,252	476	6,265	
Grapefruit.		3	181	437	481	709	972	110	124	81			
Tangerines.			57	78	92	116							
Papayas...	1	1	6	41	28	11							
Pineapples...						1	1	1	1	1	1	6	
CALHOUN COUNTY													
Watermelons...													291
Figs...													4
Peaches...													95
Pears...	35	5											50

CHARLOTTE COUNTY

Peppers.....	..	..	1	60	94	22	9	6	2	..	307	..	194
Tomatoes.....	..	..	..	..	..	..	..	..	..	..	..	..	307
Watermelons.....	..	..	..	..	..	..	..	..	..	..	..	..	211
Mangoes.....	2	..	..	..	..	..	..	..	..	..	..	..	8

CITRUS COUNTY

Watermelons.....	..	..	..	8	77	82	66	118	46	16	398	8	422
Oranges.....	..	..	..	..	4	10	7	8	1	20	6	..	423
Grapefruit.....	..	..	..	6	37	35	37	19	2	..	..	..	30
Tangerines.....	..	..	..	..	..	..	..	..	..	..	..	..	136
Grapes.....	1	..	..	..	..	..	..	..	..	..	..	..	4
											..	..	3

CLAY COUNTY

Irish potatoes.....	..	..	..	..	26	..	..	..	..	..	219	156	..
Mustard.....	..	..	..	..	..	..	..	..	..	..	27	..	375
Watermelons.....	69	10	1	2	1	..	..	..	..	..	..	..	53
Pears.....	..	..	..	..	..	..	..	..	..	..	..	..	106
Persimmons.....	..	..	..	..	..	..	..	..	..	..	..	..	99
											..	..	4

COLLIER COUNTY

Cucumbers.....	..	..	..	83	165	83	..	..	..	82	55	..	468
Eggplant.....	..	..	..	..	..	..	..	..	..	..	80	54	134
Peppers.....	..	..	..	..	..	22	682	286	..	..	138	..	138
Tomatoes.....	..	..	..	..	1	22	36	2	1	..	2,136	..	3,214
Snap beans.....	..	..	..	..	..	..	..	..	23	..	184	4	62
Watermelons.....	7	4	2	2	2	1	1	1	1	1	..	..	211
Guavas.....	7	1	2	2	2	1	1	1	1	1	..	..	15
Mangoes.....	2	2	2	2	2	1	1	1	1	1	..	..	28
Papayas.....	..	..	..	..	..	..	..	..	..	..	..	..	20
											

COLUMBIA COUNTY

Watermelons.....	..	..	..	..	..	..	..	..	..	..	..	..	211
Sweet corn, green.....	..	..	..	..	..	..	..	..	..	..	..	..	136
Grapes.....	2	..	..	..	..	..	..	..	..	..	..	..	9
Peaches.....	..	..	..	..	..	..	..	..	..	..	..	..	48
Pears.....	52	7	..	..	..	..	..	..	..	..	..	..	74
											..	..	15

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

DADE COUNTY

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage.....	1,700
Eggplant.....	371
Irish potatoes.....	7,790	11,741	...	209	...	...	19,740
Peppers.....	435	4,598	7,623	3,014	24	47	...	206
Tomatoes.....	1	39	63	4	1	...	...	15,741
Lima beans.....	61	1,862	2,995	162	60	...	...	108
Snap beans.....	19	56	187	...	...	...	5,140
All lettuce.....	262
Sweet corn, green.....	136
Okra.....	58
Squash.....	599
Beets.....	68
Chinese cabbage.....	36
Turnips.....	88
Broccoli.....	22
Collards.....	25
Radishes.....	75
Spinach.....	57
Carrots.....	240
Strawberries.....	81
Oranges.....	138	277	535	442	698	842	671	4,336
Grapefruit.....	668	448	337	498	390	367	279	3,169
Tangerines.....	14	55	80	70	51	31	301
Limes.....	838	601	242	137	305	210	202	301
Avocados.....	111	111	166	222	111	67	44	4,678
Guavas.....	7	4	2	...	...	...	...	1,110
Mangoes.....	17	4	7	6	4	4	4	15
Papayas.....	7	7	7	6	4	4	5	70

DE SOTO COUNTY

Irish potatoes.....	...	...	...	...	...	...	...	...	...	...	...	...	94
Peppers.....	...	...	...	...	...	...	...	...	...	...	...	...	517
Tomatoes.....	...	...	...	...	...	593	2,411	3,639	3,192	3,141	4,552	3,692	106
Watermelons.....	...	...	...	...	...	257	56	177	409	240	170	102	25,031
Oranges.....	...	...	...	...	...	396	1,307	656	464	464	185	22	1,563
Grapefruit.....	...	...	...	...	...	...	...	...	...	...	...	...	3,030
Tangerines.....	...	...	...	...	...	...	...	...	...	...	...	...	3
Guavas.....	...	...	...	...	...	...	...	...	...	...	...	...	2
Persimmons.....	...	...	...	...	...	...	...	...	...	...	...	...	2

DIXIE COUNTY

Watermelons.....	...	...	...	...	...	...	...	...	...	...	...	...	106
	100	6	...	...	...	...	...	...	...	...	...	...	...

DUVAL COUNTY

Sweet corn, green.....	136
Beets.....	29
Chinese cabbage.....	150
Mustard.....	105
Turnips.....	52
Onions.....	62
Collards.....	52
Radishes.....	51
Spinach.....	50
Carrots.....	25
Oranges.....	120
Grapefruit.....	120
Tangerines.....	26,143
Figs.....	2,505
Grapes.....	3,744
Pears.....	32
Persimmons.....	148
	7

ESCAMBIA COUNTY

Irish potatoes.....	2,438
Turnips.....	52
Collards.....	25
Blueberries.....	2
Figs.....	6
Peaches.....	158
Pears.....	198
Persimmons.....	2

FLAGLER COUNTY

Cabbage.....	4,250
Irish potatoes.....	9,000
English peas.....	24

GADSDEN COUNTY

Watermelons.....	211
Collards.....	84
Snap beans.....	880
Blueberries.....	4
Figs.....	14
Grapes.....	18
Peaches.....	13
Pears.....	63

GILCHRIST COUNTY

Watermelons.....	3,803

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued
GLADES COUNTY

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage...	174	325	455	239	759	173	633	2,125	
Tomatoes...	633
Lima beans...	15	99	78	42	2	5	15	8	..	35
Snap beans...	25	11	120	121	..	512
All lettuce...	1,156	1,156	..	..	..	1,619
Guavas...	5	3	1	..	..	..	..	..	..	..	..	..	11
HAMILTON COUNTY													
Cucumbers...	77
Cantaloups...	488
Watermelons...	24	15	..	..	..	..	..	..	..	422
Squash...	92
Grapes...	2	..	..	..	..	..	..	..	..	..	..	..	9
Peaches...	63
HARDEE COUNTY													
Cabbage...	1,194	434	182	333	145	142	42	6	..	850
Cucumbers...	82	82	85	..	..	..	326	434	..	2,388
Eggplant...	7	81	30	371
Irish potatoes...	9	259	207	87	..	..	315	315	..	630
Peppers...	22	86	158	58	..	..	..	562
Strawberries...	432
Tomatoes...	4,512
Watermelons...	211
Sweet corn, green...	273
Snap beans...	476
Oranges...	7,760
Grapefruit...	3,234
Tangerines...	1,524
HENDRY COUNTY													
Cabbage...
Cucumbers...	1,700
English peas...	360
Peppers...	49
Tomatoes...	94
Watermelons...	1,231
Lima beans...	422
Onions...	35
Snap beans...	15
All lettuce...	760
Guavas...	11	5	..	..	..	..	..	..	..	..	..	..	252
Mangoes...	1	..	..	..	..	..	..	..	..	..	..	..	21

HERNANDO COUNTY

Peppers...	97
Snap beans...	704
Tomatoes...	54
Oranges...	2,704
Grapefruit...	2,775
Tangerines...	4,529

HIGHLANDS COUNTY

Cabbage...	425
Irish potatoes...	630
Lima beans...	56
Snap beans...	1,500
Tomatoes...	54
Oranges...	44,004
Grapefruit...	24,487
Tangerines...	3,370
Limes...	621
Avocados...	90
Papayas...	3

HILLSBOROUGH COUNTY

Cabbage...	2,975
Cucumbers...	246
Eggplant...	495
Irish potatoes...	1,050
Peppers...	2,294
Strawberries...	1,080
Tomatoes...	4,419
Watermelons...	423
Lima beans...	112
Snap beans...	1,356
All lettuce...	1,313
Sweet corn, green...	683
Field peas, green...	122
Okra...	117
Squash...	553
Beets...	75
Mustard...	52
Turnips...	140
Onions...	50
Broccoli...	37
Cauliflower...	33
Collards...	63
Radishes...	125
Spinach...	31
Carrots...	280
Oranges...	68,011
Grapefruit...	86,568
Tangerines...	3,187
Limes...	2
Guavas...	11
Papayas...	2
Persimmons...	2

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

HOLMES COUNTY

Item	YEAR BEGINNING AUGUST									
	Aug.		Sept.		Oct.		Nov.		Dec.	
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Irish potatoes.....	..	..	..	..	..	..	..	..	..	..
Watermelons.....	1	..	..	..	..	..	..	..	..	..
Blueberries.....	..	..	..	..	..	..	..	..	..	..
Figs.....	..	..	..	..	..	..	..	..	..	..
Grapes.....	2	..	..	..	..	..	..	..	..	..
Peaches.....	..	..	..	..	..	..	..	..	..	..
Pears.....	69	10	..	..	..	..	..	..	..	..

INDIAN RIVER COUNTY

Cucumbers.....	..	..	..	54	90	18	28	28	..	..
Peppers.....	..	..	..	..	170	41	..	..	..	..
Tomatoes.....	..	..	..	..	..	340	..	..	..	..
Squash.....	..	..	..	..	..	..	..	48	..	..
Snap beans.....	..	..	..	..	..	..	..	..	90	..
Oranges.....	..	..	..	..	..	..	..	..	..	..
Grapefruit.....	..	..	..	..	..	..	..	..	..	..
Tangerines.....	..	..	..	..	..	..	..	..	..	..

JACKSON COUNTY

Watermelons.....	..	..	..	..	..	..	..	..	..	..
Cucumbers.....	1	..	..	..	..	..	..	..	..	..
Blueberries.....	..	..	..	..	..	..	..	..	..	..
Figs.....	..	..	..	..	..	..	..	..	..	..
Grapes.....	..	..	..	..	..	..	..	..	..	..
Peaches.....	..	..	..	..	..	..	..	..	..	..
Pears.....	103	15	..	..	..	..	..	..	..	..

JEFFERSON COUNTY

Watermelons.....	..	..	..	..	..	..	..	..	..	..
Figs.....	69	10	..	..	..	..	..	..	..	..
Pears.....	..	..	..	..	..	..	..	..	..	..

LAFAYETTE COUNTY

Grapes.....	2	5	.....	.....	.....	.....	.....	.....	.....	1	6	9
Pears.....	34	5	.....	.....	.....	.....	.....	.....	.....	10	10	49

LAKE COUNTY

Cabbage.	..	..	..	..	124	248	767	322	866	223	..	2,550
Celery.....	..	..	..	..	..	..	..	366	365	..	..	731
Cucumbers.	..	..	..	..	..	..	..	32	160	..	..	192
Cantaloups.	..	..	..	..	..	..	..	..	..	..	..	98
Irish potatoes.	..	..	..	..	..	..	..	..	..	..	..	420
Peppers....	..	..	..	..	..	..	..	..	..	..	..	137
Tomatoes...	..	..	..	..	..	..	..	..	..	..	..	1,252
Watermelons.	..	..	..	..	..	..	..	..	..	..	..	..
Snap beans.	..	..	..	..	..	..	..	..	..	..	..	..
All lettuce.	..	..	..	..	..	..	..	..	..	..	..	..
Oranges...:	..	..	..	..	..	..	..	..	..	..	..	..
Grapefruit.	..	..	..	..	..	..	..	..	..	..	..	..
Tangerines.	..	..	..	..	..	..	..	..	..	..	..	..
Grapes....	32	5	1	1	..	..	..	..	..	..	..	..
Pears.....	35	5	1	1	..	..	..	..	..	..	..	..
Persimmons.....	..	..	..	..	..	..	..	..	..	..	..	..

LEE COUNTY

Cucumbers.	..	..	316	668	24	138	125	..	28	12	48	1,068
Eggplant...	..	..	..	69	..	..	..	..	..	..	..	..
Irish potatoes.	..	..	5	218	..	339	1,776	846	42	..	..	1,386
Peppers....	..	..	..	..	..	617	32	21	5	..	..	6,300
Tomatoes...	..	..	..	..	..	..	343	412	309	..	..	700
Watermelons.	..	..	..	..	..	..	..	..	46	..	..	1,681
Cauliflower.	..	..	..	..	..	..	..	..	..	..	..	422
Oranges...:	..	..	..	..	..	..	..	..	..	..	..	..
Grapefruit.	..	..	..	..	..	..	..	..	..	..	..	..
Tangerines.	..	..	..	..	..	..	..	..	..	..	..	..
Guavas....	2	1	1	1	..	..	..	..	..	..	..	..
Mangoes....	7	1	1	1	..	..	..	..	..	..	..	..
Papayas....	1	1	1	1	..	..	..	..	..	..	..	..
Gladiolus....	..	..	..	..	..	..	..	..	..	..	..	..

LEON COUNTY

Watermelons.....	..	..	..	..	..	..	..	..	..	..	..	..
Blueberries.	..	..	..	..	..	..	..	..	..	..	..	..
Grapes....	1	..	..	..	..	..	..	..	..	..	..	..
Figs.....	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued
LEVY COUNTY

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage...	1,093	1,997	868	856	250	36
Watermelons...	54	..	..	..	..	..	..	775	879	966	1,215	931	280
Field peas, green...
Okra...	24	15	..	..	..	..	..	..	..	..
Squash...
Cucumbers...
Snap beans...
All lettuce...
LIBERTY COUNTY													
Figs...	34	..	5	..	..	..	..	..	..	..	..	..	1
Pears...	..	3	..	5	..	..	..	..	..	..	..	..	10
MADISON COUNTY													
Watermelons...
Figs...
Grapes...	35	..	5	..	..	..	..	..	..	..	..	..	..
Pears...
MANATEE COUNTY													
Cabbage...
Celery...	39	10	..	16	..	..	..	..	..	..
Cucumbers...	40	..	..	..	..	..
Eggplant...	55	..	..	..	..
Irish potatoes...	79	..	..	..
Escarole...
Peppers...
Strawberries...
Tomatoes...
Snap beans...
All lettuce...
Sweet corn, green...
Squash...
Broccoli...
Cauliflower...
Oranges...
Grapefruit...
Tangerines...
Guavas...	10	..	5	..	..	..	..	..	..	..	..	..	..
Mangoes...	2	..	3	..	..	..	..	..	..	..	..	..	..
Papayas...	4	..	3	..	..	..	..	..	..	..	..	..	..
Persimmons...	1	..	1	..	..	..	..	..	..	..	..	..	..
Gladiolus...

MARION COUNTY

Cabbage.....	198	75	200	400	175	1,462	1,828	366	850
Celery.....	.....	.....	.....	.....	.....	1,152	1,152	.....	3,656
Cucumbers	.....	.....	.....	.....	.....	.....	.....	.....	1,152
Eggplant.	.....	.....	.....	.....	.....	.....	.....	.....	198
Cantaloups	.....	.....	.....	.....	.....	.....	97	.....	97
Escarole	.....	.....	.....	.....	50	3	29	405	324
Peppers....	.....	.....	.....	.....	.....	.....	281	806	550
Tomatoes....	.....	109	112	50	.....	.....	109	2,791	1,087
Watermelons	.....	.....	.....	.....	.....	50	322	76	2,958
Lima beans	.....	.....	.....	.....	.....	108	968	430	448
Snap beans	.....	.....	.....	.....	.....	67	33	.....	2,152
All lettuce.	.....	.....	.....	201	268	.....	59	146	569
Sweet corn, green	.....	.....	.....	.....	.....	.....	254	594	205
Okra.....	108	538	.....	.....	.....	.....	.....	.....	848
Squash.....	.....	.....	.....	.....	.....	20	223	365	1,014
Turnips.....	.....	264	162	70	30	4	4	.....	140
Onions.....	.....	553	5,775	10,071	8,235	6,373	6,835	3,133	42,544
Oranges....	.....	2	13	97	578	318	853	298	2,246
Grapefruit.	.....	.....	65	561	353	305	229	33	1,546
Tangerines.	.....	.....	.....	.....	.....	.....	.....	1	2
Figs.....	.....	4	5	5	2	.....	.....	2	18
Grapes.....	35	1	3	5	5	2	.....	10	50
Pears.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Persimmons.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

MARTIN COUNTY

Cabbage.....	.....	.....	.....	.....	356	1,320	1,090	209	2,975
Cucumbers	.....	.....	.....	124	124	74	24	24	48
Eggplant.	.....	.....	.....	.....	.....	148	25	.....	495
Irish potatoes	.....	.....	55	37	.....	105	105	.....	210
Peppers....	.....	.....	111	182	8	1	46	185	369
Tomatoes....	.....	.....	.....	.....	28	34	25	207	1
Lima beans	.....	.....	.....	.....	85	49	28	31	556
Squash....	.....	31	197	157	13	4	21	240	56
Snap beans	2	4	13	13	242	138
Avocados...	1	1	2	6	2	1,024
Mangoes....	1	42
.....	2	4

MONROE COUNTY

Mangoes.....	1	1	2	4
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OKALOOSA COUNTY

Blueberries.....	10	37	55	102
Figs.....	3	1	1	2
Grapes.....	20	1	9	13
Peaches....	138	43	71	143
Pears.....	.....	.....	.....	.....	.....	.....	.....	.....	40	198

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued

OKEECHOBEE COUNTY

Item	YEAR BEGINNING AUGUST											Total	
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Squash.....	4,250
Snap beans.....	15	41	28	42	25	21	48	21	720	111	3,066
Tomatoes.....	78	96	..	11	120	121	1,200	..	1,440
Guavas.....	71	2	..	..	20	59	13	343	13
	12	6	..	..	96	..	..	..	..	..	..	..	23

ORANGE COUNTY

Cabbage.....	..	..	..	..	466	977	932	1,080	466	250	79	..	..
Celery.....	..	..	..	..	119	314	569	695	538	720	111	..	4,250
Cucumbers.....	..	..	..	..	..	..	..	..	240	1,200	..	..	3,066
Irish potatoes.....	..	..	..	..	..	..	..	51	..	13	343	13	1,440
Escarole.....	..	..	..	..	327	337	148	149	10	..	..	..	..
Peppers.....	..	..	..	49	288	255	120	34	4	..	..	..	971
Strawberries.....	..	..	..	..	..	4	16	30	11	17	3	..	..
Tomatoes.....	..	..	..	..	..	..	..	..	..	140	403	..	750
Watermelons.....	..	..	..	..	..	..	..	..	..	125	493	16	..
Lima beans.....	..	..	..	..	..	..	..	..	..	13	..	..	..
Sweet corn, green.....	..	..	..	..	..	..	..	..	..	59	146	..	..
Beets.....	..	..	..	..	7	25	10	..	7	3	..	..	..
Mustard.....	..	..	..	..	..	2	5	5	5	4	4	..	49
Onions.....	..	..	..	..	..	5	11	5	5	..	..	..	20
Collards.....	..	..	..	..	150	200	200	250	200	..	..	..	21
Radishes.....	..	..	..	..	..	..	..	..	..	..	..	..	1,000
Spinach.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Carrots.....	..	..	..	..	..	..	..	..	..	..	..	..	..
All lettuce.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Snap beans.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Oranges.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Grapefruit.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Tangerines.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Grapes.....	6	..	..	..	1	..	..	..	..	..	..	..	..
Persimmons.....	..	..	..	..	..	..	..	..	..	..	..	..	..

OSCEOLA COUNTY

Cucumbers.....	..	..	..	5	27	..	..	..	..	8	40	..	..
Snap beans.....	..	..	..	838	1,677	2,143	1,119	1,534	2,646	5	48	21	..
Oranges.....	..	..	..	296	175	188	292	188	1,926	1,932	106	185	14,001
Grapefruit.....	..	..	..	..	191	496	288	164	211	186	4	4	1,606
Tangerines.....	..	..	..	1	..	..	..	..	114	5	..	..	1,258
Guavas.....	2	1	1	..	..	..	..	..	..	..	..	..	5

PALM BEACH COUNTY

Cabbage...	2,065	2,075	4,412	10,652	8,043	1,485	.....	.....	27,200
Celery....	78	131	24	6,629	6,607	4,723	.....	.....	36,871
Cucumbers.	2,386	72	288	168	336	69	.....	.....	408
Eggplant...	41	49	140	246	245	456	793	.....	2,401
Irish potatoes.	186	746	82	217	21	2,211	141	.....	12,600
Escarole...	68	442	476	851	783	408	.....	.....	1,619
English peas.	57	365	290	247	211	282	70	.....	1,170
Peppers....	2,315	14,872	11,816	157	91	39	445	448	3,981
Tomatoes..	.....	.....	6,390	3,697	1,605	18,113	18	147	845
Lima beans.	.....	.....	3,403	1,344	.....	.....	.....	.....	1,896
Snap beans.	.....	.....	.....	.....	.....	.....	.....	.....	77,176
All lettuce.	.....	.....	.....	.....	.....	.....	.....	.....	1,881
Sweet corn, green.	.....	.....	.....	.....	.....	.....	.....	.....	1,706
Field peas, green....	.....	682	.....	.....	.....	.....	.....	.....	67
Okra...	.....	.....	.....	148	184	258	147	.....	15
Squash	.....	.....	.....	.....	6	7	3	.....	737
Beets...	.....	.....	1	19	4	24	31	23	16
Chinese cabbage...	.....	.....	22	305	65	413	25	.....	78
Mustard...	.....	.....	5	5	12	13	10	10	49
Turnips....	.....	.....	.....	.....	.....	.....	.....	.....	805
Onions.	.....	.....	.....	.....	.....	.....	.....	.....	50
Broccoli...	.....	.....	.....	.....	.....	.....	.....	.....	56
Collards...	.....	.....	.....	17	33	17	.....	.....	67
Radishes...	188	250	250	312	312	250	.....	.....	1,250
Carrots...	.....	.....	3	11	11	6	320	.....	320
Spinach...	.....	.....	4	415	405	362	480	460	31
Oranges...	3	95	65	354	560	630	388	217	3,111
Grapefruit.	4	102	359	279	204	204	62	8	2,593
Tangerines.	2	1	1	.....	.....	.....	.....	.....	1,014
Guavas...	2	2	1	.....	.....	.....	.....	.....	5
Mangoes...	1	1	1	.....	.....	.....	.....	.....	6
Papayas...	4	57	117	192	2	4	7	8	4
Pineapples.	4	1	57	117	250	243	343	246	83
Gladiolus.	..	..	..	..	..	..	..	..	1,448

PASCO COUNTY

Watermelons...	29	..	..	..	..	..	..	44	801
Field peas, green...	..	..	..	..	..	..	22	30	89
Snap beans.	..	..	..	..	..	..	22	22	148
Strawberries...	457	6,223	7,555	1	10	4	1	1	44
Oranges...	367	2,829	8,198	6,921	10,410	15,093	14,596	11,818	27
Grapefruit.	..	..	106	16,143	11,022	8,223	5,425	3,602	76,730
Tangerines.	4	1	2	858	617	206	56	533	55,486
Grapes....	..	..	..	..	..	..	..	2	3,065
Persimmons...	..	..	..	..	..	..	..	12	18

PINELLAS COUNTY

Oranges...	..	..	417	5,745	7,688	8,596	10,551	15,102	14,860
Grapefruit.	..	..	793	2,476	4,066	6,347	5,176	7,067	5,984
Tangerines.	34	16	..	98	1,030	660	506	206	28
Limes...	..	..	..	..	..	..	..	..	..
Avocados...	..	..	4	8	24	24	8	110	110
Gladiolus...	..	..	..	22	84	..	..	78	78

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued
POLK COUNTY

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage.....	2,125
Irish potatoes.....	630
Peppers.....	275
Strawberries.....	432
Tomatoes.....	217
Watermelons.....	423
Sweet corn, green.....	683
Field peas, green.....	364
Okra, green.....	29
Onions, green.....	20
Collards.....	42
Spinach.....	25
Carrots.....	60
Snap beans.....	264
Oranges.....	654,658
Grapefruit.....	623,472
Tangerines.....	55,574
Limes.....	1,033
Avocados.....	30
Guavas.....	8
Persimmons.....	4

PUTNAM COUNTY	PUTNAM COUNTY												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage.....	5,100
Irish potatoes.....	7,125
Peppers.....	69
Watermelons.....	422
Turnips.....	52
Snap beans.....	352
All lettuce.....	126
Oranges.....	1
Grapefruit.....	7,154
Tangerines.....	533
Figs.....	1,877
Grapes.....	1
Pears.....	14
Persimmons.....	4

St. Johns County

Cabbage.....	146	1,260	1,516	5,314	1,041	73	192	14,657	7	1,350
Cucumbers.....	..	..	..	..	..	..	..	..	..	..
Irish potatoes.....	..	..	..	..	..	..	..	..	..	..
Peppers.....	..	..	..	..	..	..	..	..	..	..
Collards.....	..	..	..	..	..	..	..	..	..	..
Snap beans.....	..	..	..	..	..	..	..	..	..	..
All lettuce.....	..	..	..	..	..	..	..	..	..	..
Oranges.....	..	..	..	..	..	..	..	..	..	..
Figs.....	..	..	..	..	..	..	..	..	..	..
Pears.....	..	..	..	..	..	..	..	..	..	..
Persimmons.....	..	..	..	..	..	..	..	..	..	..
	18	2	1	2	2	2	2	2	2	2

St. Lucie County

Cabbage.....	..	..	..	..	..	..	..	..	..	..
Cucumbers.....	..	..	..	..	..	..	..	..	..	..
English peas.....	..	..	..	..	..	..	..	..	..	..
Peppers.....	..	..	..	..	..	..	..	..	..	..
Tomatoes.....	..	..	..	..	..	..	..	..	..	..
Watermelons.....	..	..	..	..	..	..	..	..	..	..
Lima beans.....	..	..	..	..	..	..	..	..	..	..
Turnips.....	..	..	..	..	..	..	..	..	..	..
Snap beans.....	..	..	..	..	..	..	..	..	..	..
Oranges.....	..	..	..	..	..	..	..	..	..	..
Grapefruit.....	..	..	..	..	..	..	..	..	..	..
Tangerines.....	..	..	..	..	..	..	..	..	..	..
Mangoes.....	..	..	..	..	..	..	..	..	..	..
Pineapples.....	..	..	..	..	..	..	..	..	..	..
Gladiolus.....	..	..	..	..	..	..	..	..	..	..
	9	2	1	..	..	..	..	..	..	..

Santa Rosa County

Irish potatoes.....	..	..	..	..	..	..	..	..	..	..
Blueberries.....	..	..	..	..	..	..	..	..	..	..
Figs.....	..	..	..	..	..	..	..	..	..	..
Grapes.....	..	..	..	..	..	..	..	..	..	..
Peaches.....	..	..	..	..	..	..	..	..	..	..
Pears.....	..	..	..	..	..	..	..	..	..	..
	34	5	..	..	..	..	..	..	..	..

TABLE 9.—Seasonal production of fruits and vegetables in Florida, 1942-43—Continued
SARASOTA COUNTY

Item	YEAR BEGINNING AUGUST												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Cabbage...	137	683	57	239	159	..	..	1,275
Celery...	104	28	..	3,377	3,834	4,211	5,295	4,061	1,221	..	21,999
Cucumbers...	180	..	312
Irish potatoes...	1,285	..	1,680
Escarole...	2	..	324
Peppers...	369
Tomatoes...	435
Strawberries...	27
Oranges...	5,694
Grapefruit...	825

SEMINOLE COUNTY

Cabbage...	..	..	..	..	..	527	721	610	1,801	1,053	361	27	5,100
Celery...	..	..	..	..	..	2,433	6,438	11,669	14,253	11,034	14,762	2,282	62,871
Eggplant...	..	..	..	..	..	..	..	..	..	..	..	59	89
Irish potatoes...	..	..	..	..	..	..	..	..	..	..	..	..	840
Escarole...	..	..	..	..	..	356	812	801	545	456	156	111	3,237
Peppers...	..	..	..	..	..	..	..	..	..	..	..	14	275
Snap beans...	..	..	..	..	..	..	..	..	..	..	..	..	988
All lettuce	..	..	..	..	..	..	..	..	..	..	..	..	1,706
Sweet corn, green...	..	..	..	..	..	..	..	..	..	..	..	..	683
Squash...	..	..	..	..	..	..	..	..	..	..	..	..	92
Beets...	..	..	..	..	..	..	..	..	..	..	..	..	58
Chinese cabbage...	..	..	..	..	..	..	..	..	..	..	..	..	36
Turnips...	..	..	..	..	..	..	..	..	..	..	..	..	123
Broccoli...	..	..	..	..	..	..	..	..	..	..	..	..	11
Cauliflower...	..	..	..	..	..	..	..	..	..	..	..	..	81
Spinach...	..	..	..	..	..	..	..	..	..	..	..	..	32
Carrots...	..	..	..	..	..	..	..	..	..	..	..	..	180
Oranges...	..	..	..	..	..	..	..	..	..	..	..	..	42,947
Grapefruit...	..	..	..	..	..	..	..	..	..	..	..	..	7,116
Tangerines...	..	..	..	..	..	..	..	..	..	..	..	..	6,660
Persimmons...	..	..	..	..	..	..	..	..	..	..	..	..	2

SUMTER COUNTY

Cabbage...	..	..	..	..	..	..	..	..	..	..	..	..	1,275
Cucumbers...	..	..	..	..	..	..	..	..	..	..	..	..	1,152
Eggplant...	..	..	..	..	..	..	..	..	..	..	..	..	124
Cantaloups...	..	..	..	..	..	..	..	..	..	..	..	..	97
English peas...	..	..	..	..	..	..	..	..	..	..	..	..	49
Peppers...	..	..	..	..	..	..	..	..	..	..	..	..	825
Strawberries...	..	..	..	..	..	..	..	..	..	..	..	..	189
Tomatoes...	..	..	..	..	..	..	..	..	..	..	..	..	4,346
Watermelons...	..	..	..	..	..	..	..	..	..	..	..	..	2,112
Snap beans...	..	..	..	..	..	..	..	..	..	..	..	..	916
Oranges...	..	..	..	..	..	..	..	..	..	..	..	..	762
Grapefruit...	..	..	..	..	..	..	..	..	..	..	..	..	39
Tangerines...	..	..	..	..	..	..	..	..	..	..	..	..	51
Persimmons...	..	..	..	..	..	..	..	..	..	..	..	..	3

SUWANNEE COUNTY

